

DATE : 0036Z 19 FEB

SECRET

NRO REVIEW COMPLETED

TO : DIRECTOR

FROM :

[REDACTED] *conty*

ACTION: DPD (1,2,3,4,5,6,7,8,9,10)

INFO : S/C (11)

VL

TOR: 0210Z 19 FEB 68

IN 18291

TO

[REDACTED]

INFO

NO NIGHT ACTION

ARGON

TO:

[REDACTED]

SUBJECT: DUST FREE AREA-ANALYSIS TO DATE

1. SINCE OUR LAST DISCUSSIONS CONSIDERABLE DATA HAS BEEN COLLECTED FROM VARIOUS SOURCES REGARDING THE FEASIBILITY, PRACTICALITY AND REQUIREMENTS REGARDING A CLEAN ROOM AT NEW YORK [REDACTED] AND VAFB.

2. AS A RESULT OF THE ANALYSIS MADE TO DATE IT IS RECOMMENDED THAT ONE OF THE FOLLOWING ALTERNATES BE APPROVED.

ALTERNATE A.

INSTALLATION OF CLEAN ROOMS AS FOLLOWS:

SIZE:

1. 16 X 24 AT NEW YORK FOR FINAL CHECKOUT.

2. 25 X 25 AT PALO ALTO FOR SYSTEM CHECKS INCLUDING COLLIMATORS.

3. 25 X 25 AT VAFB FOR FINAL SYSTEM CHECKOUT INCLUDING COLLIMATORS AND FILM LOADING AREAS FOR MAB, PAD RUNS AND FLIGHT.

CONTROL:

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Approved For Release 2002/10/31 : CIA-RDP70B00783R000100130067-6

25X1A ☐ 0017 (IN 18291)

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AS REPORTED BY THE BAKER COMPANY IN CERTIFIED REPORTS AS CLEAN
TO A 2.0 MICRON LEVEL.

DELIVERY:

ESTIMATED BY FCI AS 12 TO 14 WEEKS FROM PURCHASE ORDER.

25X1A COST: ESTIMATED ROM
25X1 NRO ☐ FCI
☐ VAFB
PLUS ☐ LMSD (MAN-HOURS)
PLUS 6 DAYS/UNIT DELAY IN FLIGHT SCHEDULE
PLUS ☐ MISC
25X1A SUBTOTAL ☐

ALTERNATE B.

INSTALLATION OF ONE CLEAN ROOM AT VAFB.

SIZE:

25 X 30 AT VAFB FOR FINAL ASSEMBLY, CLEANING OF INTERIOR
FINAL CHECKOUT INCLUDING COLLIMATORS AND FILM LOADING AREA FOR MAB,
PAD RUNS AND FLIGHT.

CONTROL: (AS ABOVE (2.0 MICRONS)).

DELIVERY: ESTIMATED 14 WEEKS WITH HQS TRANSPORTATION
FROM MAINE.

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25X1A

COST: ESTIMATED ROM

[] VAFB

PLUS 20,000 LMSD (MAN-HOURS)

25X1A

TOTAL: []**SIZE:****25 X 25 AT PALO ALTO FOR SYSTEMS CHECKOUT INCLUDING COLLIMATORS.****CONTROL: CONTROLLED ATMOSPHERE INCLUDING ELECTROSTATIC PRECIPITATOR AND POSITIVE PRESSURE. (NO VALUE OF PARTICLE SIZE AVAILABLE AT PRESENT).****DELIVERY: 10-12 WEEKS.**

NRO

25X1

COST: ESTIMATED ROM

25X1A

[] MISC

3. AS YOU CAN SEE FROM THE EXPECTED DELIVERY AND INSTALLATION AT ALL INSTALLATIONS AN IMMEDIATE GO-AHEAD IS REQUIRED TO INSURE COMPLETION BETWEEN NOW AND THE TIME NEW YORK EXPECTS TO DELIVER. IT WILL ONLY BE A MATTER OF A FEW DAYS AT THE MOST WHEN THE CLEAN ROOM AT [] PALO ALTO WILL BE REQUIRED AND APPROXIMATELY 25 TO 30 DAYS LATER THE VAFB CLEAN ROOM WOULD BE REQUIRED.

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25X1

4. DURING THE ANALYSIS OF THIS REQUIREMENT THE FOLLOWING FACTS HAVE BEEN CONSIDERED IN THIS DECISION.

(1) DUST PARTICLES ARE ELECTROSTATICALLY ATTRACTED TO THE FILM DURING TRANSPORT THRU THE CAMERA. THIS IS PREDOMINANT AT THE POINT

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THE FILM LEAVES THE SUPPLY SPOOL. UPON REACHING THE PRECISION FLAT PLATEN AND BEING LODGED BETWEEN THE FILM AND PLATEN DURING DIFFERENTIAL PRESSURE FLATTENING AN UNDETERMINABLE AMOUNT OF DISTORTION IS INTRODUCED INTO THE PHOTOGRAPHIC IMAGE. THIS AMOUNT OF DISTORTION VARIES WITH PARTICLE SIZE AND LOCATION ON THE FORMAT (10 MICRON PARTICLE INTRODUCES 10 MICRON DISTORTION AT 45 DEGREES OFF AXIS AND LESS DISTORTION AS THE LOCATION APPROACHES THE AXIS).

(2) NO KNOWN PRECISION CAMERA MANUFACTURER HAS BEEN SPECIFICALLY CONCERNED WITH THIS PROBLEM BEFORE. THIS MAY BE EXPLAINED USING SEVERAL THEORIES NOT CONSIDERED APPROPRIATE HERE.

(3) LMSD PROPOSES THAT AS A MINIMUM EFFORT THE PHILOSOPHY OF THE CLOSER WE APPROACH LAUNCH DATE AND LOCATION THE MORE CONTROL MUST BE APPLIED TO HANDLING INSTRUMENT IN A DUST FREE ENVIRONMENT.

(4) CONSIDERATION BY AUTOMETRICS AS OBTAINED BY DIRECTION FROM

[] IS AS FOLLOWS:

A. THE DUST PROBLEM IS STRAIGHTFORWARD AND DISTORTION-WISE THERE WILL BE DAMAGE TO THE SYSTEM (ALONG THE LINES OF PARAGRAPH 4 (1) ABOVE).

B. A SPECIFIC OPERATIONAL TASK SHOULD BE FOLLOWED TO TRY TO CLEAN INSTRUMENT BEFORE FLIGHT.

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C. STATISTICAL ANALYSIS OF HOW MUCH DUST CAN BE TOLERATED WOULD BE VERY DIFFICULT.

D. IN ORBIT, THE FIRST FEW FRAMES OF PHOTOGRAPHY MAY REMOVE FROM THE FILM PATH AREA ANY LOOSE PARTICLES AND BECOME CONSTANT AFTER THAT. IT MAY BE POSSIBLE THEN TO DETECT THIS CONSTANT AS DISTORTION AND INFO USED AS SYSTEMATIC ERROR.

E. AGREE THAT THE CLOSER TO LAUNCH (INCLUDING THE FINAL FILM LOADING) THE MORE CARE MUST BE EXERCISED IN CLEANLINESS.

5. REQUEST ACTION BY 22 FEBRUARY TO INITIATE PURCHASE ORDERS.

END OF MESSAGE

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